CHAPTER 3

Reviewing the Literature

With so much information available, searching and locating good literature on your topic can be challenging. This chapter introduces you to five logical steps in reviewing the literature so that you can locate useful resources and write them into the literature review section of a research report.

By the end of this chapter, you should be able to:

- Define what a literature review is and why it is important.
- Identify the five steps in conducting a literature review.

Maria needs to find and review the literature for her study on the possession of weapons by students in high schools. Because she has not spent much time in the university library, she compiles a list of questions for her advisor:

1. What is a literature review?
2. Where do I begin in conducting a literature review?
3. What are the best materials to include in my review and how do I locate them?
4. Is it worth my time to search the Internet for the literature?
5. Are there any shortcuts for identifying journal articles on my topic?
6. Should I gather and summarize both quantitative and qualitative studies?
7. How long should my literature review be?
8. Do you have an example of a literature review that I might examine?

As you begin to think about reviewing the literature for a research study, you may have questions similar to Maria's.

WHAT IS A LITERATURE REVIEW AND WHY IS IT IMPORTANT?

A **literature review** is a written summary of journal articles, books, and other documents that describes the past and current state of information on the topic of your research study. It also organizes the literature into subtopics, and documents the need for a proposed study. In the most rigorous form of research, educators base this review mainly on research reported in journal articles. A good review, however, might also contain other information drawn from conference papers, books, and government documents. In composing a literature review, you may cite articles that are both quantitative and qualitative studies. Regardless of the sources of information, all researchers conduct a literature review as a step in the research process.

Why is this review necessary? Many reasons exist. You conduct a literature review to document how your study adds to the existing literature. A study will not add to the literature if it duplicates research already available. Like Maria, you conduct a literature review to convince your graduate committee that you know the literature on your topic and that you can summarize it. You also complete a literature review to provide evidence that educators need your study. You may base this need on learning new ideas, sharing the latest findings with others (like Maria and her school committee), or identifying practices that might improve learning in your classroom. Conducting a literature review also builds your research skills of using the library and being an investigator who follows leads in the literature, all useful experiences to have as a researcher. Reading the literature also helps you learn how other educators compose their research studies and helps you find useful examples and models in the literature for your own research. By conducting a literature search using computer databases, you develop skills in locating needed materials in a timely manner.

How Does the Literature Review Differ for Quantitative and Qualitative Studies?

How the review of the literature is used tends to differ between quantitative and qualitative research. Table 3.1 identifies three primary differences: the amount of literature cited at the beginning of the study, the use it serves at the beginning, and its use at the end of a study.

In a quantitative study, researchers discuss the literature extensively at the beginning of a study (see Deslandes & Bertrand, 2005). This serves two major purposes: it justifies the importance of the research problem, and it provides a rationale for (and foreshadows) the purpose of the study and research questions or hypotheses. In many quantitative studies, the authors include the literature in a separate section titled "Review of the Literature" to highlight the important role it plays. The authors also incorporate the literature into the end of the study, comparing the results with prior predictions or expectations made at the beginning of the study.

In a qualitative study, the literature serves a slightly different purpose. Similar to quantitative research, the authors mention the literature at the beginning of the study to document or justify the importance of the research problem (Shelden et al., 2010). However, authors do not typically discuss the literature extensively at the beginning of a study. This allows the views of the participants to emerge without being constrained by the views of others from the literature. In some qualitative studies, researchers use the literature to support the findings. Nevertheless, in many qualitative projects, researchers often cite the

TABLE 3.1

Differences in Extent and Use of Literature in Quantitative and Qualitative Research

Differences	Quantitative Research	Qualitative Research
Amount of literature cited at the beginning of the study	Substantial	Minimal
Use of literature at the beginning of the study	Justifies or documents the need for the study	Justifies or documents the need for the study
	Provides a rationale for the direction of the study (i.e., purpose statement and research questions or hypotheses)	
Use of literature at the end of the study	Confirms or disconfirms prior predictions from the literature	Supports or modifies existing findings in the literature

literature at the end of the study as a contrast or comparison with the major findings in the study. In qualitative inquiry, researchers do not make predictions about findings. They are more interested in whether the findings of a study support or modify existing ideas and practices advanced in the literature—for example, expand on the understanding of trust as mentioned in the introduction to the mothers' trust in principals qualitative study (Shelden et al., 2010).

WHAT ARE THE FIVE STEPS IN CONDUCTING A LITERATURE REVIEW?

Regardless of whether the study is quantitative or qualitative, common steps can be used to conduct a literature review. Knowing these steps helps you read and understand a research study. If you conduct your own research study, knowing the steps in the process will give you a place to start and the ability to recognize when you have successfully completed the review.

Although conducting a literature review follows no prescribed path, if you plan to design and conduct a study, you will typically go through five interrelated steps. If you are simply looking for literature on a topic for your own personal use or for some practical application (such as for Maria's school committee), only the first four steps will apply. However, learning all five steps will provide a sense of how researchers proceed in reviewing the literature. These steps are:

1. *Identify key terms* to use in your search for literature.
2. *Locate literature* about a topic by consulting several types of materials and databases, including those available at an academic library and on the Internet.
3. *Critically evaluate and select the literature* for your review.
4. *Organize the literature* you have selected by abstracting or taking notes on the literature and developing a visual diagram of it.
5. *Write a literature review* that reports summaries of the literature for inclusion in your research report.

Identify Key Terms

Begin your search of the literature by narrowing your topic to a few key terms using one or two words or short phrases. You should choose these carefully because they are important for initially locating literature in a library or through an Internet search. To identify these terms, you can use several strategies, outlined below:

- Write a preliminary "working title" for a project and select two to three key words in the title that capture the central idea of your study. Although some researchers write the title last, a working title keeps you focused on the key ideas of the study. Because it is a "working" title, you can revise it at regular intervals if necessary during the research (Glesne & Peshkin, 1992).
- Pose a short, general research question that you would like answered in the study. Select the two or three words in this question that best summarize the primary direction of the study.
- Use words that authors report in the literature. In some quantitative research studies, educators test a prediction for what they expect to find from the data. This prediction is an explanation for what researchers hope to find. Researchers use the term *theory* for these explanations, and they might be a theory of "social support" or "learning styles" of students. The actual words of the theory (e.g., "social support" or "learning styles") become the words to use in your search.
- Look in a catalog of terms to find words that match your topic. Visit online databases that are typically available in college or university libraries. For example, one database is the **ERIC database** (see Educational Resources Information Center [ERIC], 1991; **www.eric.ed.gov/**). ERIC provides free access to more than 1.2 million bibliographic records of journal articles and other education-related materials and, if available, includes links to full text. ERIC is sponsored by the U.S. Department of Education, Institute of Education Sciences (IES).
- Go to the bookshelves in a college or university library, scan the table of contents of education journals from the last 7 to 10 years, and look for key terms in titles to the articles. You can also examine the electronic database called *Ingenta* at your academic library. Ingenta supplies access to full-text online publications and journal publications. Especially helpful is the "browse publications" feature, in which you enter the name of the journal you wish to examine and obtain a list of the titles of articles from that journal for select years.

Maria needs to identify key terms to help her locate literature on weapon possession by high school students. After thinking about how she might get started, she writes down a working title, "Weapon Possession by High School Students." She begins by going to the ERIC Web site and enters the words *weapon possession* in the search terms procedure. She examines the articles identified in her search and feels that narrowing her search to high school students will provide more targeted references in the literature. She then uses the feature of searching within results and adds the additional term, *high school students*. She has now sufficiently narrowed her search and will closely examine the references in the literature that her search has yielded. Now try duplicating Maria's procedure yourself. Locate the ERIC Web site and insert Maria's terms into the ERIC database.

Locate Literature

Having identified key terms, you can now begin the search for relevant literature. You might be tempted to begin your search by accessing the Internet and exploring the electronic literature available on a topic. Although this process may be convenient, not all

literature posted on the Internet is dependable. Sometimes individuals post articles that have not passed through standards of external reviews. However, full-text documents of high quality are available on the Internet.

You might also begin your search by asking faculty or students to recommend good articles and studies to review. This approach may be helpful, but it lacks the systematic process found in searching library resources.

Use Academic Libraries

A sound approach is to begin your search in an academic library. By physically searching the stacks, reviewing microfiche, and accessing the computerized databases, you will save time because you will find comprehensive holdings not available through other sources. Although a town or city library may yield some useful literature, an academic library typically offers the largest collection of materials, especially research studies.

Academic library resources provide online journals for easy computer access and computerized databases such as ERIC. Academic libraries typically have online catalogs of their holdings so that you can search the library materials easily. In addition, from any location, you can search the online library holdings of many large academic libraries (e.g., University of Michigan or University of California, Berkeley) to see what books are available on your topic. Another useful library to search is the Library of Congress, which contains most published books (**http://catalog.loc.gov**).

When using academic libraries, two challenges exist. First, the researcher needs to locate material—a task often made difficult because of the large and complex holdings in a library, such as journals or periodicals (recent and bound), government documents, the microfiche collection, and indexes. To help locate material, you might use the services of a reference librarian or search through the computerized library holdings. The second challenge is overcoming the frustration that arises when other library users have checked out materials you need, making them unavailable for use. When this occurs, researchers can use an interlibrary loan service as a means of obtaining the literature; however, this process takes time and requires patience.

Use Both Primary and Secondary Sources

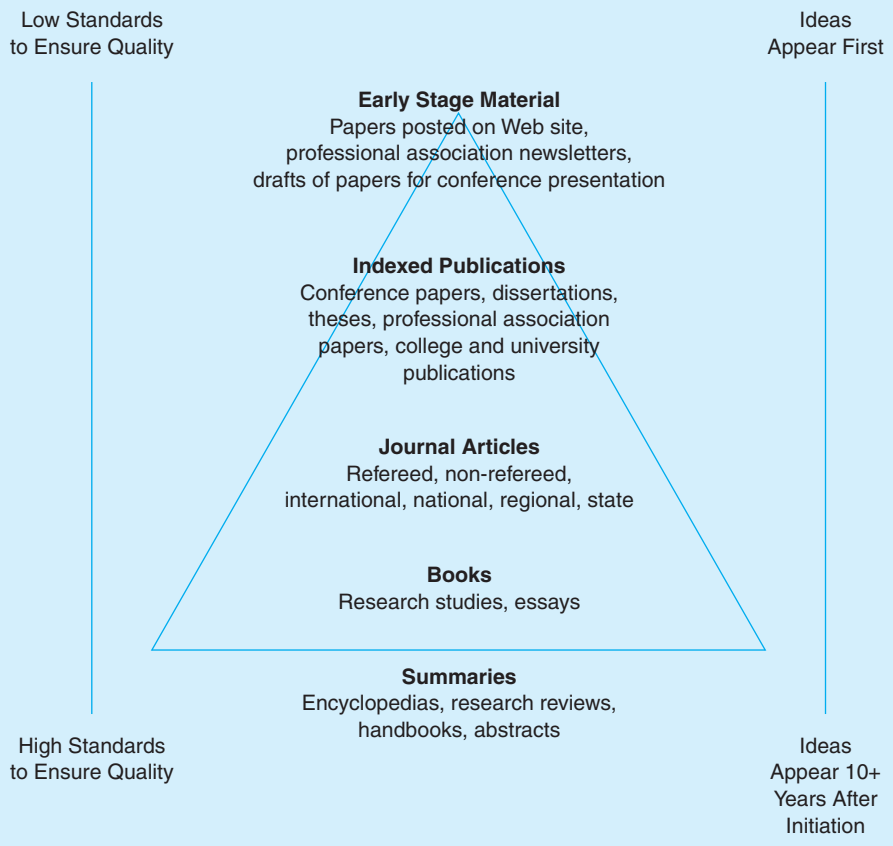
Literature reviews often contain both primary and secondary source materials. **Primary source literature** consists of literature reported by the individual(s) who actually conducted the research or who originated the ideas. Research articles published by educational journals are an example of this type of source. **Secondary source literature**, however, is literature that summarizes primary sources. It does not represent material published by the original researcher or the creator of the idea. Examples of secondary sources are handbooks, encyclopedias, and select journals that summarize research, such as the *Review of Educational Research*. Typically, you will locate both primary and secondary sources, but it is best to report mostly primary sources. Primary sources present the literature in the original state and present the viewpoint of the original author. Primary sources also provide the details of original research better than do secondary sources. Secondary sources are helpful as you begin your review, to explore and determine the range of materials on a topic. Historically, the division into primary and secondary sources has been a useful classification for literature in fields such as law and history (Barzun & Graff, 1985).

Search Different Types of Literature

Figure 3.1 provides a useful classification system of the literature that you might consider. Modified from a classification originally developed by Libutti and Blandy (1995), the figure is a guide to resources as well as a framework for getting started in a literature search.

FIGURE 3.1

A Classification of Sources of Literature Review Materials from Summaries to Early Stage Materials


Low Standards to Ensure Quality
Ideas Appear First
Early Stage Material
Papers posted on Web site, professional association newsletters, drafts of papers for conference presentation
Indexed Publications
Conference papers, dissertations, theses, professional association papers, college and university publications
Journal Articles
Refereed, non-refereed, international, national, regional, state
Books
Research studies, essays
Summaries
Encyclopedias, research reviews, handbooks, abstracts
High Standards to Ensure Quality
Ideas Appear 10+ Years After Initiation

Using this framework, you might begin your search at the bottom of the triangle by consulting summaries of research that synthesize numerous studies on a topic (secondary sources of information). From these broad summaries, you can work your way up to journal articles (primary sources) and to "early stage" literature found at the top. For many beginning researchers, starting with summaries is a good idea because summaries give an overview of topics at an entry-level discussion. Summaries also have a longer "life" from the initial idea stage, and they have undergone reviews for quality.

Summaries **Summaries** provide overviews of the literature and research on timely issues in education. A list of available summaries is shown in Table 3.2. These sources include encyclopedias, dictionaries and glossaries of terms, handbooks, statistical indexes, and reviews and syntheses. These summaries introduce a beginning researcher to a problem area, and they help locate key references and identify current issues. Leading specialists in the field of education write these summaries.

Encyclopedias A good place to start when you know little about a topic is an **encyclopedia**, such as the *Encyclopedia of Educational Research* (Alkin, 1992). Sponsored by

TABLE 3.2

Types of Summaries Available in Academic Libraries with Examples

Encyclopedias

Encyclopedia of Educational Research (Alkin, 1992)

The International Encyclopedia of Education (Husen & Postlethwaite, 1994)

Encyclopedia of American Education (Unger, 1996)

Dictionaries and Glossaries of Terms

The SAGE Dictionary of Qualitative Inquiry (Schwandt, 2007)

Dictionary of Terms in Statistics and Methodology: A Nontechnical Guide for the Social Sciences (Vogt, 2005)

Glossary of postmodern terms, in *Post-Modernism and the Social Sciences* (Rosenau, 1992)

Handbooks

Handbook of Research on Multicultural Education (Banks & Banks, 1995)

Handbook of Research on Teacher Education (Houston, Haberman, & Sikula, 1990)

The Handbook of Qualitative Research in Education (LeCompte, Millroy, & Preissle, 1992)

The SAGE Handbook of Qualitative Research (Denzin & Lincoln, 2005)

Educational Research, Methodology and Measurement: An International Handbook (Keeves, 1988)

Statistical Indexes

American Statistics Index (Congressional Information Service, 1973–)

Digest of Educational Statistics (National Center for Educational Statistics, 1997)

Reviews and Syntheses

Review of Educational Research (1931–)

Annual Review of Psychology (1950–)

AERA, this encyclopedia provides research under 16 broad topics, including the curriculum of elementary and secondary education, education of exceptional persons, and the organizational structure and governance of education. The appendix on "Doing Library Research in Education" is especially useful (Alkin, 1992, p. 1543).

Dictionaries and Glossaries of Terms Other useful tools in the literature review and overall research process are **dictionaries and glossaries** of terms. These dictionaries contain most of the recent educational terms. For example, the *Dictionary of Statistics and Methodology: A Nontechnical Guide for the Social Sciences,* 3rd edition (Vogt, 2005), defines statistical and methodological terms used in the social and behavioral sciences; such terms are often problematic for beginning researchers. *The SAGE Dictionary of Qualitative Inquiry,* 3rd edition (Schwandt, 2007), is a reference book of qualitative terms containing multiple and often contested points of view about definitions. *Post-Modernism and the Social Sciences* (Rosenau, 1992) provides a glossary of postmodern terms related to studying issues of inequality and oppression in our society.

Handbooks There are numerous **handbooks** that discuss topics such as teaching, reading, curriculum, social studies, educational administration, multicultural education, and teacher education. Several handbooks are available on educational research topics. A handbook that addresses methods of research inquiry, the utilization of knowledge, measurement, and statistics is *Educational Research, Methodology, and Measurement: An International Handbook* (Keeves, 1988). Two recent handbooks are also available on topics in qualitative research: *The Handbook of Qualitative Research in Education* (LeCompte, Millroy, & Preissle, 1992) and *The SAGE Handbook of Qualitative Research* (Denzin & Lincoln, 2005). In quantitative research, handbooks are available as well, such as *The SAGE Handbook of Applied Social Research Methods* (Bickman & Rog, 2009). For research that combines both the quantitative and qualitative research approach, you might want to refer to the *Handbook of Mixed Methods in the Social and Behavioral Sciences* (Tashakkori & Teddlie, 2003, 2011).

Statistical Indexes **Statistical indexes** such as the annual *Digest of Educational Statistics* (National Center for Educational Statistics [NCES], 1997) report educational trends useful in writing problem statements or literature reviews. The *Digest,* issued since 1933 by the U.S. government, compiles statistical information covering the broad field of American education from kindergarten through graduate school. It also reports information from many sources, including the surveys and activities carried out by the NCES.

Reviews and Syntheses A final summary source on topics consists of timely **reviews and syntheses** in education, psychology, and the social sciences. For example, the *Review of Educational Research* (1931–) is a quarterly journal of AERA that publishes lengthy articles synthesizing educational research on various topics.

Books Academic libraries have extensive collections of books on a broad range of educational topics. The books most useful in reviewing the literature will be those that summarize research studies or report conceptual discussions on educational topics. Textbooks used in classes are less useful because they typically do not contain reports of single research studies, but they contain summaries of the literature and useful references. The *Subject Guide to Books in Print* (1957–) and the *Core List of Books and Journals in Education* (O'Brien & Fabiano, 1990) are guides that might also be helpful in your literature search.

Journals, Indexed Publications, and Electronic Sources Journal (or periodical) articles and conference papers that report research are prime sources for a literature review. To locate articles in journals, consider searching an abstract series, indexes to journals, or the diverse computer databases in education and the social sciences.

Abstract Series Abstract series, which allow for a broad search of journal articles by subject area, are available in many fields. In educational administration, for example, you might examine the *Educational Administration Abstracts* (University Council for Educational Administration, 1966–), or in early childhood development, look at the *Child Development Abstracts and Bibliography* (Society for Research in Child Development, 1945–). You can usually find these abstracts by accessing the online library catalog and using key words such as *abstracts,* and the subject field or topic to determine if the library contains a specific abstract series. Another place to search for journal publications are indexes such as the *Education Index* (Wilson, 1929/32–), an index devoted primarily to periodicals and organized into subject areas and fields.

Databases The most likely place to find journal articles is in databases that index journal articles both in print form and on CD-ROMs. A Google search can also often lead to timely articles and discussions on educational topics. A more careful and monitored approach is to examine one of the many literature databases. By examining these databases, you can easily access hundreds of journal articles on educational topics. Computerized databases also facilitate searching the literature for conference papers and miscellaneous publications, such as papers from professional associations or education agencies. You might start a computerized search of the databases with the education data, followed by the psychological and sociological sources of information. Six important databases offer easy retrieval of journal articles and other documents related to education:

1. ERIC (1991) is a national system of information in education established in 1966 by the U.S. Department of Education and the National Library of Education (NLE). Because public monies supported the development of ERIC, you can search the ERIC database free of charge. You can search this extensive database both online (Internet) and in print forms (available on the bookshelves of academic libraries).

   Education documents allowed into the ERIC database are selected mainly by reviewers at 16 subcontent clearinghouses (e.g., Adult, Career, and Vocational Education; Assessment and Evaluation). Individuals at these clearinghouses examine the educational material,

write abstracts, and assign terms or *descriptors* from the ERIC vocabulary to identify each source of information. The literature that goes into ERIC is not peer reviewed for quality, but reviewers at the clearinghouses do select it for inclusion in the database.

The ERIC database consists of two parts: journals, located in the *Current Index to Journals in Education* (CIJE; ERIC, 1969–), and documents, found in *Resources in Education* (RIE; ERIC, 1966–). *CIJE* is a monthly and cumulative index to information located in approximately 980 major educational and education related journals. It provides a subject index, an author index, and abstracts of specific studies. *RIE* is a monthly and cumulative index to current research findings, project and technical reports, speeches, unpublished manuscripts, and books. It indexes education information by subject, personal author, institution, and publication type.

A sample ERIC journal article (CIJE) summary (or resume) and a sample ERIC document (RIE) resume are shown in Figures 3.2 and 3.3. You will find these on the ERIC

FIGURE 3.2

Sample ERIC Journal Article Resume

ERIC Accession Number—identification number sequentially assigned to articles as they are processed.

EJ466919 **EC606287** ← **Clearinghouse Accession Number**

Article Title → **Family-Centered Techniques: Integrating Enablement into the IFSP Process.** Andrews,

Author(s) → Mary A.; Andrews, James R. *Journal of Childhood Communication Disorders*, v15 n1 p41–46 1993 ← **Journal Title**

Volume No., Issue No., Pages
Publication Date

Reprint Availability → (Reprint: UMI)

Descriptive Note → Note: Theme Issue; Service Delivery to Infants and Toddlers: Current Perspectives.

ISSN: 0735–3170 ← **ISSN** (International Standard Serial Number)

Major and Minor Descriptors — subject terms found in the *Thesaurus of ERIC Descriptors* that characterize substantive content. Only the major forms (preceded by an asterisk) are printed in the Subject Index of *Current Index to Journals in Education (CIJE)*.

→ Descriptors: Child Rearing; *Communication Disorders; *Early Intervention; *Family Involvement; Individual Development; Objectives; Parenting Skills; Skill Development; *Teamwork; Young Children

Identifiers: *Enabler Model; Family Needs; *Individualized Family Service Plans ← **Major and Minor Identifiers**—terms found in the *Identifier Authority List* that characterize proper names or concepts not yet represented by descriptors. Only the major terms (preceded by an asterisk) are printed in the Subject Index of *Current Index to Journals in Education*.

Annotation

This article describes techniques, used in a family-centered early intervention project, that both assist in accomplishing the goals of the Individualized Family Service Plan process and create opportunities for families to display their present competencies and acquire new ones to meet the needs of their children with communication disorders.

Annotator's Initials → (Author/IDD)

Note: The format of an ERIC Journal Article resume will vary according to the source from which the database is accessed. The above format is from the printed index, *Current Index to Journals in Education*.

FIGURE 3.3

Sample ERIC Document Resume

ERIC Accession Number—identification number sequentially assigned to articles as they are processed.

ED359626 **EA025062** ← **Clearinghouse Accession Number**

Author(s) → *Fuhrman.-Susan H. Ed.*

Title → **Designing Coherent Education Policy; Improving the System.**

Institution. (Organization where document originated.) → Corporate Source—Consortium for Policy Research in Education, New Brunswick, NJ.
Sponsoring Agency—Office of Educational Research and Improvement (ED), Washington, DC.

← **Sponsoring Agency**—agency responsible for initiating, funding, and managing the research project.

Contract or Grant Number → Contract Nos.–R117G10007; R117G10039

Date Published → Pub Date—1993

ISBN (International Standard Book Number) → ISBN-1-55542-536-4

Available from—Jossey-Bass Publishers, 350 Sansome Street, San Francisco, CA 94104.

← **Alternate source for obtaining document.**

None-370 p. ← **Descriptive Note** (pagination first).

ERIC Document Reproduction Service (EDRS) Avaliabiity—"MF" means microfiche: "PC" means reproduced paper copy. When describes as "Document Not Available from EDRS," alternate sources are cited above. Prices are subject to change. For latest price code schedule see section on "How to Order ERIC Documents," in the most recent issue of *Resources in Education*, or call EDRS at 1-800-443-3742 for price information.

→ EDRS Price—MF01/PC15 Plus Postage.

Pub Type—Books (010)—Collected Works-General (020)—Guides–Non-Classroom (055)

← **Publication Type**—broad categories indicating the form or organization of the document, as contrasted to its subject matter. The category name is followed by the category code

Descriptors—Educational Change; Elementary Secondary Education; Governance; Politics of Education; Standards; *Educational Objectives; *Education Policy; *Instructional Improvement; *Policy Formation; *Public Education

← **Descriptors**—subject terms found in the *Thesaurus of ERIC Descriptors* that characterize substantive content. Only the major terms (proceeded by an asterisk) are printed in the Subject Index of *Resources in Education*.

Abstract

This book examines issues in designing coherent education policy for public elementary and secondary schools. It seeks to expand the policy discussion by refining the definition of coherence and considering a number of complex questions raised by the notion of coherent policy. The book offers an indepth look at systemic school reform and offers a variety of ideas as to how educators at the district, state, and federal levels may coordinate the various elements of policy infrastructure around a new set of ambitious, common goals for student achievement. Chapters include the following: (1) "The Politics of Coherence" (Susan H. Fuhrman); (2) "Policy and Practice: The Relations between Governance and Instruction" (David K. Cohen and James P. Spillanc); (3) "The Role of Local School Disctricts in Instructional Improvement" (Richard F. Elmore); (4) "Systemic Educational Policy: A Conceptual Framework" (William H. Clune); (5) "Student Incentives and Academic Standards: Independent Schools as a Coherent System" (Arthur G. Powell); (6) "New Directions for Early Childhood Care and Education Policy" (W. Steven Barnett); (7) "How the World of Students and Teachers Challenges Policy Coherence" (Milbrey W. McLaughlin and Joan E. Talbert); (8) "Systemic Reform and Educational Opportunity" (Jennifer A. O'Day and Marshall S. Smith); and (9) "Conclusion: Can Policy Lead the Way?" (Susan H. Fuhrman). References accompany each chapter. (LMI)

← **Abstractor's Initials**

Note: The format of an ERIC Document resume will vary according to the source from which the database is accessed. The above format is from the printed index, *Resources in Education*.

Web site. Read through the marginal notations that explain the information about the document. This summary contains an accession number (*EJ* for journal and *ED* for documents). It also displays the author, the title, the major and minor descriptors assigned to the article, and a brief annotation describing the article.

2. *Psychological Abstracts* (APA, 1927–) and the CD-ROM versions, *PsycLit* (SilverPlatter Information, Inc., 1986) and *PsycINFO* (**www.apa.org**), are important sources for locating research articles on topics broadly related to psychology. In October 2000, PsycLit and PsycINFO consolidated into one database to provide a comprehensive source of psychological literature from 1887 to the present. This database is available in a print version, on CD-ROM, and on a Web site. These databases are available in libraries or through online versions leased by the libraries and networked through campus computers.

These databases index more than 850 journals in 16 categories. They provide bibliographic citations, abstracts for psychological journal articles, dissertations, technical reports, books, and book chapters published worldwide. The print version has a 3-year cumulative index. An example of a journal record from PsycINFO is shown in Figure 3.4. Similar to an ERIC record, this summary from PsycINFO includes key phrase *identifiers,* as well as the author, title, the source, and a brief abstract of the article.

3. *Sociological Abstracts* (Sociological Abstracts, Inc., 1953–) is available in a print version, on CD-ROM (*Sociofile,* SilverPlatter Information, Inc., 1974/86–), and in a library-leased Web version available to computers networked to the library. Available from Cambridge Scientific Abstracts, this database provides access to the world's literature in sociology and related disciplines. The database contains abstracts of journal articles selected from more than 2,500 journals, abstracts of conference papers presented at sociological association meetings, dissertations, and books and book reviews from 1963 to the present.

4. The *Social Science Citation Index* (SSCI; Institute for Scientific Information [ISI], 1969–) and the CD-ROM version, *Social Sciences Citation Index* (ISI, 1989–), provide a database of cited references to journal articles. The citation index allows you to look up a reference to a work to find journal articles that have cited the work. SSCI covers 5,700 journals, representing virtually every discipline in the social sciences.

5. EBSCO Information Services (**www.ebsco.com/**) is a worldwide information service that provides print and electronic subscription services, research database development and production, and online access to more than 150 databases and thousands of e-journals. Academic libraries purchase the services of EBSCO or individuals can purchase articles of interest through the pay-per-view feature. Using EBSCO, the educational researcher can view tables of contents for journals and abstracts to articles, and link directly to full text from over 8,000 titles. Researchers can also receive e-mails of the tables of contents for their favorite journals as soon as they are published.

6. *Dissertation Abstracts* (University Microfilms International [UMI], 1938–1965/66) and the CD-ROM version *Dissertation Abstracts Ondisc* (*Computer File;* UMI, 1987–) provide guides to doctoral dissertations submitted by nearly 500 participating institutions throughout the world. It is published in three sections: Section A, The Humanities and Social Sciences; Section B, The Sciences and Engineering; and Section C, Worldwide. Examining these sections, a researcher finds abstracts (350-word summaries) of dissertations. A comprehensive index permits easy access to titles, authors, and subject areas.

Early Stage Literature The final major category of literature to review (see Figure 3.1) comprises materials at an early stage of development that may or may not be screened by reviewers (e.g., journal editors or book publishers) for quality. Such early stage literature consists of newsletters, studies posted to Web sites, professional-association newsletters, and drafts of studies available from authors. For example, electronic journals and research studies are posted to Web sites and available on the Internet. Some of

FIGURE 3.4

Sample Journal Record from PsycINFO Database (www.apa.org/psychinfo/about/sample.html#journal)

Sample Records from the PsycINFO Database

The values in each field below vary from record to record. For a complete list of possible values for each field, plus a description of each field, please visit our Database Field Guide.

- View a Journal Record
- View a Book Record
- View a Book Chapter Record
- Review sample records representing non-article data

Sample Journal Record

Accession Number
2000-15980-004
Author
Dubois, Michel; Vial, I.
Affiliation
U Pierre Mendes, Lab de Psychologie Sociale, Grenoble, France
Title
Multimedia design: The effects of relating multimodal information.
Source
Journal of Computer Assisted Learning. 2000 Jun Vol 16(2) 157-165
ISSN/ISBN
0266-4909
Language
English
UMI
URL
DOI
Release Date
20000628
Abstract
The are few models that describe learner behaviour during the simultaneous processing of several types of information, yet this is the defining characteristic of the use of multimedia tools, which bring together media in different informational formats (fixed or moving images, sound, text). Following studies in cognitive psychology concerning the increase in the ability to form mental images of words, this article aims at defining how different multimedia presentation modes affect the learning of foreign language vocabulary (Russian). 60 college students learned Russian phrases and then participated in a recall experiment where the multimedia presentation of the phrases was varied. An effect was observed on word memorisation in the different information presentation modes, suggesting better processing when there is co-referencing of the different sources, especially when the encoding and tests modes are the same. In addition to these experimental results, some principles for the design of multimodal learning tools are discussed. (PsycINFO Database Record (c) 2000 APA, all rights reserved)
Key Concepts
information presentation method, recall of foreign language phrases, college students
Keywords (Thesaurus Terms)
*Foreign Language Learning; *Instructional Media; *Recall (Learning); *Visual Display
Classification Codes
2343 Learning & Memory
Population
10 Human; 300 Adulthood (18 yrs & older)
Population Location
France
Form/Content Type
0800 Empirical Study
Table of Contents (Book Records only)
Publication Year
2000

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TABLE 3.3

Advantages and Disadvantages of Using the Internet as a Resource for a Literature Review

Advantages	Disadvantages
• There is easy access to material since the researcher can search any time of the day.	• Research posted to Web sites is not reviewed for quality by "experts."
• Web sites have a breadth of information on most topics.	• The research found on Web sites may have been plagiarized without the searcher's knowledge.
• Web sites provide a network that researchers can contact about their topic and research problem.	• Research studies may be difficult to find and time-consuming to locate.
• Research posted to Web sites is typically current information.	• Web site literature may not be organized or summarized in a way that is useful.
• Web sites can be searched easily using a search engine and keywords.	• Full-text electronic journals available on the Web are new and few in number.
• Select research studies can be printed immediately from Web sites.	

the advantages and disadvantages of using these materials from the Internet appear in Table 3.3.

Unquestionably, the easy ability to access and capture this material makes it attractive; however, because reviewers may not have evaluated the quality of this information, you need to be cautious about whether it represents rigorous, thoughtful, and systematic research for use in a literature review. Ways to determine the credibility of the material include the following:

- See if it is a study reported in an online journal with a peer review board to oversee the quality of publications.
- Determine if you recognize the authors because they have published materials in quality journals or books.
- See if the Web site has standards for accepting the research studies and reporting them.
- Ask a faculty member in your graduate program if he or she feels that the article is of sufficient quality to be included in your literature review.

Critically Evaluate and Select the Literature

Let's return to the major steps in conducting a literature review. The process begins with identifying key words and locating resources. Once you locate the literature, you need to determine if it is a good source to use and whether it is relevant to your particular research.

Is It a Good, Accurate Source?

It sometimes comes as a shock to beginning researchers that even though a study has been published, it may not be worthy of including in a literature review. Some guidelines are helpful to make a careful selection of the literature. Remember, as mentioned in Figure 3.1, there are different types of literature.

- Rely as much as possible on journal articles published in national journals. Typically, a panel of editors (two or three editorial board members plus a general editor) reviews and critically evaluates a manuscript before it is accepted for publication. If the journal lists reviewers or editorial board members from around the country, consider it to be high quality because it is a refereed, national journal.
- Use a priority system for searching the literature. Start with refereed journal articles; then proceed to nonrefereed journal articles; then books; then conference papers, dissertations, and theses; and finally nonreviewed articles posted to Web sites. This order reflects the extent of external review of materials from a high level of review to minimal or no review. If you are using full-text articles from Web sites, review the quality of the material. Use articles reported in national online journals that have undergone a review through editorial boards. Information about the journals and their review process can be obtained online. Material obtained from Web sites not in national, refereed journals needs to be carefully screened to determine the qualifications of the author, the quality of the writing, and the scope and rigor of data collection and analysis.
- Look for "research" studies to include in your literature review. This research consists of posing questions, collecting data, and forming results or conclusions from the data. Also, the claims made by authors in their results need to be justified and supported based on the data collected.
- Include both quantitative and qualitative research studies in your review, regardless of the approach you might use in your own study. Each form of research has advantages and provides insight for our knowledge base in education.

Is It Relevant?

Whether a source is high quality and worthy of inclusion in a literature review is one consideration. An entirely separate question is whether the literature is relevant to use. You might read the literature you have selected, noting the titles of articles, the contents of abstracts at the beginning of the material (if they are present), and major headings in the study. This review helps determine if the information is relevant to use in a review. Relevance has several dimensions, and you might consider the following criteria when selecting literature for a review:

- Topic relevance: Does the literature focus on the same topic as your proposed study?
- Individual and site relevance: Does the literature examine the same individuals or sites that you want to study?
- Problem and question relevance: Does the literature examine the same research problem that you propose to study? Does it address the same research question you plan to address?
- Accessibility relevance: Is the literature available in your library or can you download it from a Web site? Can you obtain it easily from the library or a Web site?

If you answer yes to these questions, then the literature is relevant for your literature review.

Organize the Literature

Once you have located the literature, assessed its quality, and checked it for relevance, the next step is to organize it for a literature review. This process involves photocopying and filing the literature. At this time you might quickly read it, take notes on it, and determine

how it fits into the overall literature. You might also construct a visual picture of the literature—a literature map—that helps to organize it, positions your study within the literature, and provides a framework for presenting research to audiences about your topic.

Reproducing, Downloading, and Filing

After locating books, journal articles, and miscellaneous documents (such as the education documents in ERIC available online) in a library, you should make copies of the articles, scan the articles, or download the articles (as html or pdf files) and develop some system to easily retrieve the information. Copyright laws permit the duplication of only one complete article without the permission of the author. Placing the articles in file folders (or storing them in a computer file) alphabetized by author name may be the most convenient way to organize the materials. Alternatively, you might organize the literature by sources, topic, or key words. However, using an author index may be the most convenient method because topics and key words you use in your literature review may shift as you work through drafts of the review.

Taking Notes and Abstracting Studies

During the process of reading the literature, researchers take notes on the information so that a summary of the literature is available for a written review. This note taking is often an informal procedure in which the researcher identifies important ideas about the article or material and writes rough notes about each source of information. This process may involve a citation to the article (see "Using a Style Manual" section later in this chapter) and a brief summary of the major points of the article. These points may generally include (a) the questions being addressed, (b) data collection, and (c) major results.

Instead of this informal approach, a preferred strategy is to systematically record information about each source so that you can easily insert it into a written review of the literature. This process yields useful information so that you can remember the details of the studies.

A systematic approach for summarizing each source of information is to develop an abstract for each one. An **abstract** is a summary of the major aspects of a study or article, conveyed in a concise way (for this purpose, often no more than 350 words) and written with specific components that describe the study. Be careful not to use the abstracts available at the beginning of journal articles. They may be too brief to use because of word or space limitations imposed by journal editors. Also, if you use such an abstract, you need to reference it so that you do not plagiarize someone else's work. Instead, write your own abstracts of articles and materials. This calls for identifying the topics that you need to abstract from the study.

The first step is to think about the type of literature you will be abstracting. Researchers typically emphasize research studies for abstracting and inclusion in the literature review, rather than essays or opinion papers (although you probably need to cite important essays or opinions if authors widely cite them).

To abstract elements for a *quantitative research* study such as a journal article, conference paper, or dissertation or thesis, you might identify the:

- Research problem
- Research questions or hypotheses
- Data collection procedure
- Results of the study

A complete abstract reporting these four elements for a quantitative survey study by Metzner (1989) is shown in Figure 3.5. Notice in this abstract that the summaries of each element are short and that a complete reference to the work is listed at the top so

FIGURE 3.5

Sample Abstract for a Quantitative Research Study

Metzner, B. (1989). Perceived quality of academic advising: The effect on freshman attrition. *American Educational Research Journal, 26*(3), 422–442.*

Research Problem:

Colleges and universities place emphasis on student retention, and academic advising positively intervenes to reduce dropout. However, surveys show extensive dissatisfaction with advisement. Empirical investigations of this relationship have provided equivocal results. Some studies show a positive relationship between retention and quality of advising; others have failed to discover an association.

Research Questions or Hypotheses:

No specific research questions or hypotheses were raised, but this reader can deduce them from the purpose statement. The general question was: Does the quality of advisement influence student attrition? The specific questions are: Is better advising associated with lower attrition than poor advising? Do changes in quality of advising (from good, poor, or no advising) affect retention differently?

Data Collection Procedure:

Freshmen at a public university were asked about the quality of advising they received, their intent to leave the institution, and their general satisfaction with the college experience. One thousand and thirty-three students completed questionnaires in their English Composition courses late in the fall semester of 1982.

Results:

In response to the question, "Is better advising associated with lower attrition than poor advising?", the results (of regression analysis) showed that good advising reduced dropout while poor advising failed to have any effect. Thus, levels of advising quality did impact freshman attrition differently. In response to the next question: "Do changes in the quality of advising (good, poor, none) affect retention differently?", the results showed that yes, the impact was different. Good advising helped to lower dropout more than no advising, and poor advising lowered dropout more than no advising. The implications of these results is that the best strategy for improving retention is to offer good advising to students who receive no advising.

**Source:* Abstracted with the assistance of Beth Caughlin, Bob Mann, Chad Abresch, Qian Geng, and Ling-Mean Heng from Education 800, University of Nebraska, Lincoln, Fall 1998.

that each abstract is fully documented. (Reference format will be addressed later in this chapter.)

For a *qualitative research* study, the topics are the same as those used in a quantitative study, but the headings reflect terms commonly used in qualitative research. Instead of using hypotheses and questions, qualitative researchers state only questions. Instead of *results, findings* is a more acceptable qualitative term.

When abstracting a qualitative research study, you might identify the:

- Research problem
- Research questions
- Data collection procedure
- Findings

These elements were used to abstract a qualitative study by Creswell and Brown (1992), shown in Figure 3.6. This study explores the role of academic chairpersons in enhancing faculty research. Again, there is a brief summary of each element and a complete reference to the article at the top of the abstract.

The elements abstracted in both the quantitative and qualitative examples illustrate typical information extracted from research studies. In other forms of abstracting, you may include additional information in which you critique or assess the strengths and weaknesses of the research.

FIGURE 3.6

Sample Abstract for a Qualitative Research Study

Creswell, J. W., & Brown, M. L. (1992). How chairpersons enhance faculty research: A grounded theory study. *The Review of Higher Education, 16*(1), 41–62.

Research Problem:

The authors mention that past research has addressed the correlates of scientific achievement and the research performance of faculty. However, an unexplored correlate is the role of the chairperson in influencing faculty scholarly performance. Since chairs are in a position to enhance and facilitate faculty scholarship, the role of the chair needs clarification.

Research Questions:

The central research question is implied in the title to the study: "How do chairpersons enhance faculty research?" More specifically, the authors asked chairs to discuss an Issue involved in assisting faculty members in the department in his or her professional development. They were also asked to specify actions or roles in performing this assistance, identify reasons for assistance, note signs that the individual needed assistance, and indicate the outcomes of assistance for the individual.

Data Collection Procedure:

The authors collected semi-structured interview data from 33 chairpersons located in a variety of disciplines and types of institutions of higher education. Chief academic officers and faculty development personnel on the campuses nominated these chairs for the study. The authors used the procedures of grounded theory.

Findings:

The authors identified from the interviews seven major categories of roles engaged in by the chairpersons: provider, enabler, advocate, mentor, encourager, collaborator, and challenger. Further analysis then led to understanding how these roles played out for faculty at different stages of their careers. Four levels of faculty were used to illustrate their chair roles: beginning faculty, pre-tenured faculty, post-tenured faculty, and senior faculty. From these profiles, the authors identified a theoretical model of the chair's role and advanced propositions (or hypotheses) for future testing. These propositions related to the type of issue the faculty member experienced, the career stage issue of the faculty member, and the strategies employed by the chairperson.

Constructing a Literature Map

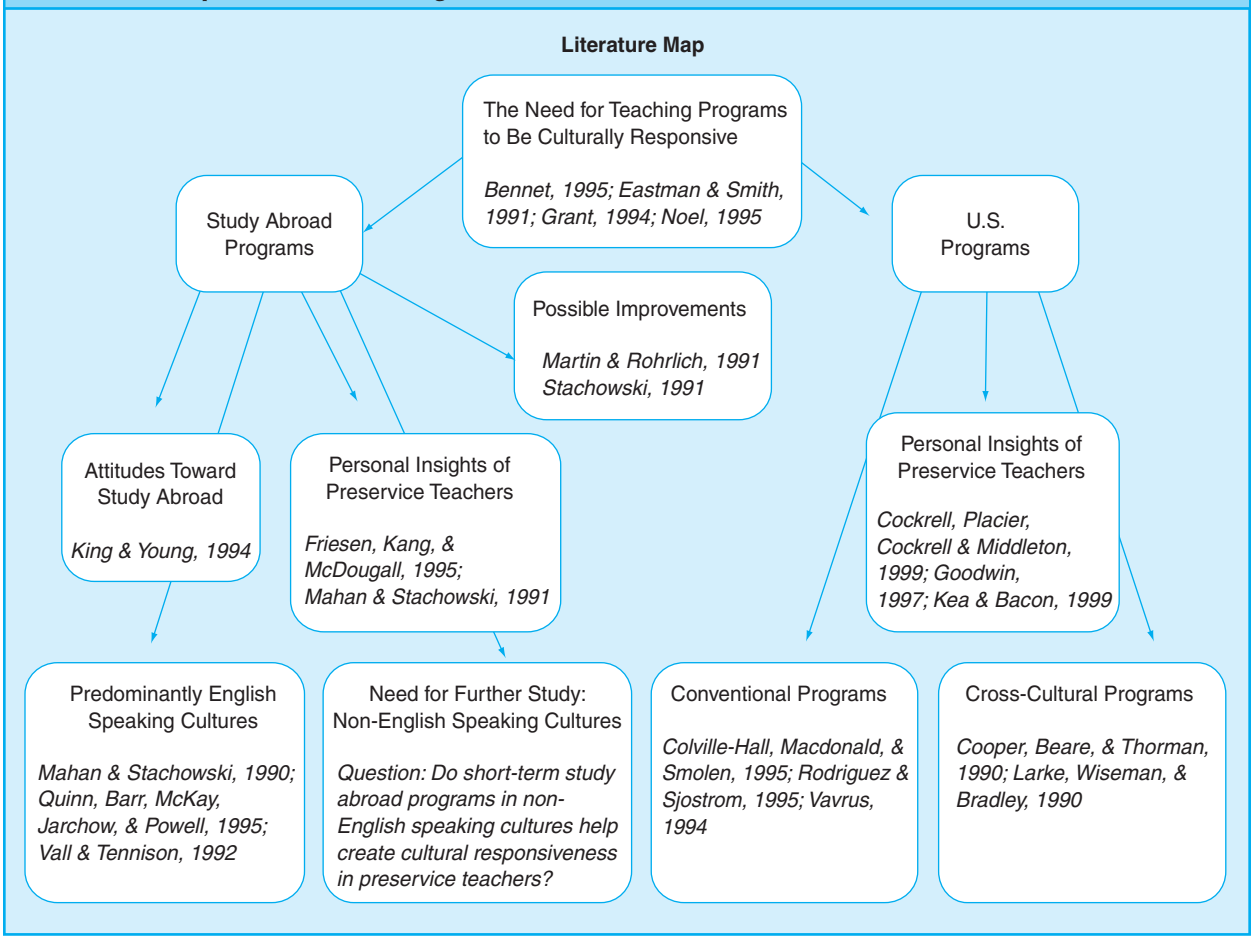
As you organize and take notes or abstract articles, you will begin to understand the content of your literature review. In other words, a conceptual picture will begin to emerge. Having a diagram or visual picture of this conceptualization allows you to organize the literature in your mind, identify where your study fits into this literature, and convince others of the importance of your study.

This visual picture results in a literature map, literally a map of the literature you have found. A **literature map** is a figure or drawing that displays the research literature (e.g., studies, essays, books, chapters, and summaries) on a topic. This visual rendering helps you see overlaps in information or major topics in the literature and can help you determine how a proposed study adds to or extends the existing literature rather than duplicates past studies. As a communication device, a map helps you convey to others, such as faculty committee members or an audience at a conference, the current picture of the literature on a topic.

The actual design of this map can take several forms. Figure 3.7 shows a chart in which the researcher organized the literature hierarchically. Organized in top-down fashion, this chart portrays the literature that Hovater (2000) found on the topic of preservice training for teachers on multicultural topics. At the top of the figure he lists the topic: the need for teacher education programs to train culturally responsive teachers. Next, below the top level, he identifies the two programs available, study abroad programs and U.S.

FIGURE 3.7

A Literature Map, Hierarchical Design


Literature Map
The Need for Teaching Programs to Be Culturally Responsive
Bennet, 1995; Eastman & Smith, 1991; Grant, 1994; Noel, 1995
Study Abroad Programs
U.S. Programs
Possible Improvements
Martin & Rohrlich, 1991
Stachowski, 1991
Attitudes Toward Study Abroad
King & Young, 1994
Personal Insights of Preservice Teachers
Friesen, Kang, & McDougall, 1995; Mahan & Stachowski, 1991
Personal Insights of Preservice Teachers
Cockrell, Placier, Cockrell & Middleton, 1999; Goodwin, 1997; Kea & Bacon, 1999
Predominantly English Speaking Cultures
Mahan & Stachowski, 1990; Quinn, Barr, McKay, Jarchow, & Powell, 1995; Vall & Tennison, 1992
Need for Further Study: Non-English Speaking Cultures
Question: Do short-term study abroad programs in non-English speaking cultures help create cultural responsiveness in preservice teachers?
Conventional Programs
Colville-Hall, Macdonald, & Smolen, 1995; Rodriguez & Sjostrom, 1995; Vavrus, 1994
Cross-Cultural Programs
Cooper, Beare, & Thorman, 1990; Larke, Wiseman, & Bradley, 1990

Source: Used by permission of Scott Hovater, 2000.

programs, and below that, specific studies that address these two types of programs. These studies relate to attitudes of students, personal insights of teachers, and possible improvements in training. At the lower left-center of the map, Hovater advances his proposed study: to extend the literature addressing the question, "Do short-term study abroad programs in non-English-speaking cultures help create cultural responsiveness in preservice teachers?"

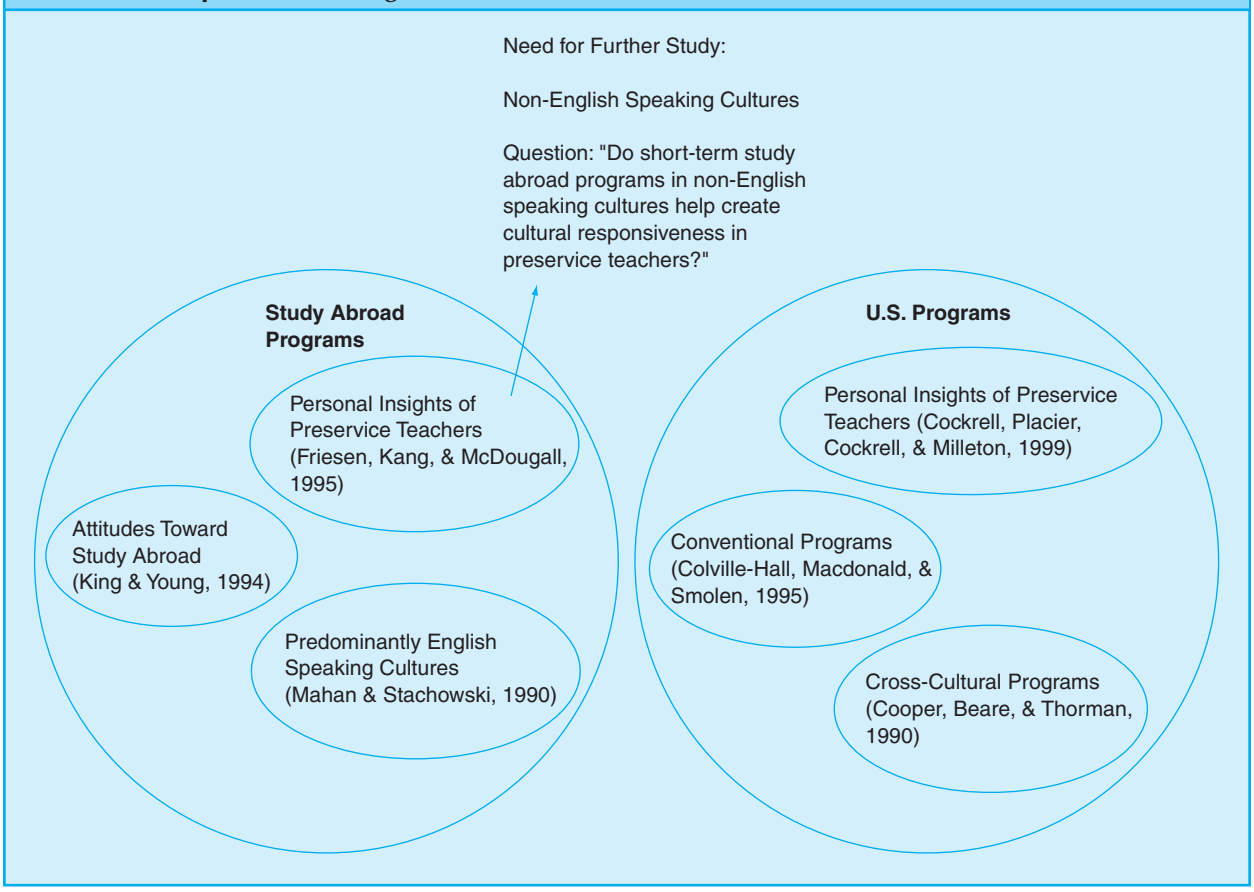
Hovater's (2000) literature map includes several useful design features that you can include in a literature map. Here are some guidelines to follow when constructing your own literature map:

- Identify the key terms for your topic and place them at the top of the map. As discussed earlier, these key terms are found in draft titles, questions, or ERIC resources.
- Take the information for your map and sort it into groups of related topical areas or "families of studies." Think in terms of three or four groupings because these groups will likely result in major sections in a written literature review.

- Provide a label for each box (later this label is useful as a heading in your literature review). Also, in each box, include key sources you found in your literature search that fit the label of the box.
- Develop the literature map on as many levels as possible. Some branches in the drawing will be more developed than others because of the extent of the literature. In some cases, you may develop one branch in detail because it is the primary area of focus of your research topic.
- Indicate your proposed study that will extend or add to the literature. Draw a box at the bottom of the figure that says "my proposed study," "a proposed study," or "my study." In this box, you could state a proposed title, a research question, or the problem you wish to study. An extremely important step is to draw lines *connecting* your proposed study to other branches (boxes) of the literature. In this way, you establish how your study adds to or extends the existing literature. The map in Figure 3.8 shows a hierarchical design. Other designs, such as a circular design of interconnecting circles or a sequential design to show the literature narrowing and focusing into a proposed study, can also be used. We can see a circular design by shifting and changing Hovater's (2000) hierarchically designed map into a circular map, as shown in Figure 3.8.

FIGURE 3.8

A Literature Map, Circular Design


Need for Further Study:
Non-English Speaking Cultures
Question: "Do short-term study abroad programs in non-English speaking cultures help create cultural responsiveness in preservice teachers?"
Study Abroad Programs
Personal Insights of Preservice Teachers (Friesen, Kang, & McDougall, 1995)
Attitudes Toward Study Abroad (King & Young, 1994)
Predominantly English Speaking Cultures (Mahan & Stachowski, 1990)
U.S. Programs
Personal Insights of Preservice Teachers (Cockrell, Placier, Cockrell, & Milleton, 1999)
Conventional Programs (Colville-Hall, Macdonald, & Smolen, 1995)
Cross-Cultural Programs (Cooper, Beare, & Thorman, 1990)

Write a Literature Review

Now that you have scanned the literature to determine its relevance, abstracted it, and organized it into a literature map, it's time to construct the actual written summary of the literature. For the most part, this literature consists of journal articles and research reports found in library resources. Researchers use procedures for summarizing each study, providing a clear reference to it, and writing the literature review. This writing requires pulling together all aspects of the review to this point, such as:

- Using an appropriate style to write complete references for these summaries (for a list at the end of your research report) and to develop headings for the literature review
- Employing specific writing strategies related to the extent of the review, the type of review, and the concluding statements in a review

Using a Style Manual

We have already seen how abstracts can include a complete reference (or citation) to the information in the literature (see Figures 3.5 and 3.6). In writing these references, you should use an accepted style manual. Headings, tables, figures, and the overall format also require use of a specific style manual. A **style manual** provides a structure for citing references, labeling headings, and constructing tables and figures for a scholarly research report. When you use a style manual, the research (and the literature review) will have a consistent format for readers and other researchers, and this format will facilitate their understanding of the study.

The *Publication Manual of the American Psychological Association,* 6th edition (APA, 2010), style manual is the most popular style guide in educational research. Other guides available are the *Chicago Manual of Style,* 15th edition (University of Chicago Press, 2003), *A Manual for Writers of Term Papers, Theses, and Dissertations,* 7th edition (Turabian, 2007), and *Form and Style: Theses, Reports, and Term Papers,* 8th edition (Campbell, Ballou, & Slade, 1990). These style manuals provide a consistent format for writing a research report. Three of the most frequently used approaches found in the *Publication Manual of the American Psychological Association* (APA, 2010) will be emphasized here:

- End-of-text references
- Within-text references
- Headings

End-of-Text References **End-of-text references** are the references listed at the end of a research report. In APA form, they are double spaced and listed alphabetically by author. Include in the end-of-text reference list only the references mentioned in the body of the paper. The APA manual provides examples of the most common kinds of end-of-text references. Below are illustrations of three common types of references in appropriate APA form.

An example of a *journal article* end-of-text reference in APA form is:

Elam, S. M. (1989). The second Phi Delta Kappa poll of teachers' attitudes toward public schools. *Phi Delta Kappan, 70*(3), 785–798.

An example of a *book* end-of-text reference in APA form is:

Shertzer, B., & Stone, S. C. (1981). *Fundamentals of guidance* (4th ed.). Boston: Houghton Mifflin.

An example of a *conference paper* end-of-text reference in APA form is:

Zedexk, S., & Baker, H. T. (1971, May). *Evaluation of behavioral expectation scales.* Paper presented at the meeting of the Midwestern Psychological Association, Detroit, MI.

As these examples show, the first line is left adjusted and the second line is indented. We call this a *hanging indent.* Also, observe the use of all lowercase letters (noncapitals) in the titles of the articles, except for the first word and proper nouns. In the journal article example, we capitalize all words in the journal title. In the book example, we capitalize only the first word in the title of the book, the first word following a colon in the title, and proper nouns.

With increasing frequency, electronic journal publishing and materials located on the Internet are common today. Two ways to identify material obtained on the Internet are to provide a URL or a DOI (digital object identifier) number to the reference information. The URL is used to map digital information on the Internet. A URL contains several components: a protocol, a host name, the path to the document and the specific file name, such as **http://www.apa.org/monitor/oct09/worlplace.html**. The words "Retrieved from" precede the URL name as in the following example of a journal article reference:

Smith, J. (2008, June). Sciences vs. ideologies. *Science, 29*(3). Retrieved from **http://www.apa.org/monitor/**.

URLs are often changed on the Internet, and scholarly publishers have increasingly used the assignment of a DOI to journal articles and to documents. The DOI System provides a means of identification for managing information on digital networks (see **http://www.doi.org/**). A DOI is a unique alphanumeric string assigned by a registration agency to identify content and provide a persistent link to its location on the Internet. The DOI number is typically located on the first page of the electronic journal article, close to the copyright notice. When cited in a reference, this number is placed at the end of a reference, such as in this journal article example:

Smith, J. P. (2005). Mixed methods research: Its controversies and potential. *Journal of Mixed Methods Research, 3*(1), 34–50. doi: 1038/0278.6133.24.2.226

Within-Text References **Within-text references** are references cited in a brief format within the body of the text to provide credit to authors. APA style lists several conventions for citing these in-text references. The following examples illustrate the appropriate use of APA style when you cite both single and multiple authors.

An example of a within-text reference in APA style in which the author refers to a single reference is:

> Rogers (1994) compared reaction times for athletes and nonathletes in middle schools. . . .

As this reference shows, APA style requires that you use only the author's last name for within-text citations, unless first initials are needed to distinguish between authors with identical surnames. This reference also includes information about the year of the publication. These references may also appear anywhere in the sentence.

An example of a within-text reference in APA style in which the author refers to multiple references is:

> Past studies of reaction times (Gogel, 1984; Rogers, 1994; Smith, 1989) showed. . . . Entire groups of studies have addressed the difficulty of test taking and reaction times (Gogel, 1984; Happenstance, 1995; Lucky, 1994; Smith, 1989).

As illustrated by this example, semicolons separate the different studies. Also, the authors are listed in alphabetical order, as in end-of-text references, rather than in chronological order based on the date of publication.

The in-text citation of multiple authors needs to be carefully considered. When a work has only two authors, you should cite both names every time the reference occurs in the text, such as:

Kurines and Smith (2009) demonstrated . . .

However, when a work has three, four, or five authors, cite all of the authors the first time the reference occurs, but cite only the first author followed by *et al.* and the year in subsequent citations. For example,

First time citation:

The difficulty of test taking and reaction times has been examined by Smith, Paralli, John, and Langor (1994).

Subsequent citation in the same paper:

The study of test taking and reaction times (Smith et al., 1994) . . .

The *Publication Manual of the American Psychological Association,* 6th edition (APA, 2010), has a useful table to indicate how to cite references in text by one author, multiple authors, and groups.

Finally, good scholarly writing requires that authors cite original sources—where the information came from originally—rather than cite a book or article that contains the reference. For example,

Inadequate model:

Smith (1994), as reported in Theobald (1997), said that. . . .

An improved model, using the original source:

Smith (1994) said that. . . .

Levels of Headings As you write a literature review, consider the number of topics or subdivisions in your review. **Levels of headings** in a scholarly study and literature review provide logical subdivisions of the text. Headings provide important clues for readers that help them understand a study. They also divide the material in the same way as topics in an outline.

In APA style, the maximum number of heading levels is five. As shown in Figure 3.9, these five headings differ in their use of upper- and lowercase letters; in centered,

FIGURE 3.9

Headings in APA Sixth Edition Style

Centered, Boldface, Uppercase and Lowercase Heading (Level 1)

Flush left, Boldface, Uppercase and Lowercase Heading (Level 2)

Indented, boldface, lowercase paragraph heading ending with a period. (Level 3)

***Indented, boldface, italicized, lowercase paragraph heading ending with a period.* (Level 4)**

Indented, italicized, lowercase paragraph heading ending with a period. (Level 5)

Source: APA (2010), p. 62

left-adjusted, and indented words; and in italics. Most educational studies include either two or three levels of headings. Authors seldom use fourth- or fifth-level headings because their research lacks the detail needed for many subdivisions. For some books, five levels of headings may be appropriate, but typically two to three levels of headings will suffice for most educational research studies.

The choice of heading levels in a literature review depends on the number of subdivisions of topics you use. Regardless of subdivisions, APA style requires that you use certain types of headings for a two-, three-, four-, and five-level heading format. The following examples illustrate these three popular forms.

When you have only two levels in a research report, use Levels 1 and 2. An example of a *two-level heading* in APA form that uses first (centered, boldface, uppercase and lowercase) and second levels (flush left, boldface, uppercase and lowercase) is:

Review of the Literature (Level 1)

Introduction (Level 2)

Social Support Research (Level 2)

If you have three levels in your research, use Levels 1 (centered, boldface, uppercase and lowercase), 2 (flush left, boldface, uppercase and lowercase), and 3 (indented, boldface, lowercase paragraph heading ending with a period.). A lowercase paragraph means that the first letter of the first word is uppercase and the remaining words are lowercase. An example of a *three-level heading* in APA form is:

Review of the Literature (Level 1)

Introduction (Level 2)

Social support. People band together in work units. . . . (Level 3)

Sections of a paper may have different levels of headings, depending on length and complexity. The introduction to a manuscript does not carry a heading that identifies it as an introduction. It is assumed that the first part of a manuscript is the introduction. Also, the title of a manuscript should be typed in uppercase and lowercase letters, centered, and positioned in the upper half of a page. In sum, headings are not easy to describe, and they need to be short—typically two or three words—and state exactly and succinctly the content of the passage that follows.

Writing Strategies

As you write a literature review, several additional elements will need your attention: the extent of the review, the type of review, and the concluding statement of the review.

Extent of the Review One question Maria asked her advisor was "How long should my literature review be?" There is no easy answer to this question, but you can begin by considering the type of research report you are writing. For dissertations and theses, you need an extensive review of the literature, which often comprehensively includes all sources of information identified in the classification of resources in Figure 3.1. For research plans or proposals, a less than comprehensive literature review may suffice, although guidelines may be set by advisors or reviewers. The literature review in proposals or plans for a study establishes the framework for a study and documents the importance of the research problem. Typically, literature reviews for proposals run from 10 to 30 pages in length, although this can vary. A proposal literature review summarizes the citations obtained from searching databases such as ERIC, PsycINFO, EBSCO, Sociofile, and others. For a journal article, the extent of the literature review varies, with typically more attention given to the literature review in a separate section in a quantitative study than in a qualitative study. In a journal article, researchers also tend to shorten the literature

review to fit word requirements of journal editors, as compared to a more thorough and extensive review as found in proposals or plans for a study.

Also related to the *extent* of the literature review is the question "How far back in the literature do my references need to go?" When completing a dissertation or thesis, the search covers most published literature and the author examines sources back to the inception of the research topic. For research proposals and journal articles (and preliminary reviews), use as a rough guide the last 10 years, focusing on the more recent studies. An exception is to cite earlier, classical studies because they substantially influence subsequent literature published in the last decade.

Types of Literature Reviews At this point you will need to determine how to actually structure the summaries or notes taken on the articles and studies in the literature. The organization of the summaries varies depending on the type of research report and the traditions for literature reviews on different campuses. When writing a literature review for a dissertation or thesis, you might visit with an advisor to determine the appropriate format to use. However, the two models presented here—the thematic review and the study-by-study review—will serve you well. [See Cooper (1984) and Cooper & Lindsay (1998) for additional approaches.]

In a **thematic review of the literature**, the researcher identifies a theme and briefly cites literature to document this theme. In this approach, the author discusses only the major ideas or results from studies rather than the detail of any single study. Authors use this approach frequently in journal articles, but students also use it for dissertations and theses in graduate programs. You can identify this form by locating a theme and noting the references (typically multiple references) to the literature used to support the theme.

For example, in a study by Brown, Parham, and Yonker (1996), the authors reviewed the literature about racial identity development of White counselors-in-training in a course on racial identity attitudes of White women and men. This passage, appearing in an early section in the study, illustrates a thematic approach:

> Among other things, racial identity is a sense of group belonging based on the perception of a shared racial heritage with a specific group and, as such, it has an impact on personal feelings and attitudes concerning distinguishable racial groups (Helms, 1990; 1994; Mitchell & Dell, 1992). Researchers agree that White Americans generally are not challenged to ask themselves, "What does it mean to be White?" (Pope-Davis & Ottavi, 1994). . . . (p. 511)

In this case, the authors review the literature about the theme "racial identity" and briefly mention references to support the theme. The authors do not discuss each reference separately and in detail.

In contrast to a thematic review, the **study-by-study review of the literature** provides a detailed summary of each study grouped under a broad theme. This detailed summary includes the elements of an abstract shown in Figures 3.5 and 3.6. This form of review typically appears in journal articles that summarize the literature and in dissertations and theses. When presenting a study-by-study review, authors link summaries (or abstracts) by using transitional sentences, and they organize the summaries under subheadings that reflect themes and major divisions. Using the literature map concept discussed earlier in this chapter, these themes are the topics identified in boxes in the map (see Figure 3.7).

The following review of the literature about cross-cultural competency and multicultural education in the journal *Review of Educational Research* by McAllister and Irvine (2000) illustrates a study-by-study review. Here, the authors discuss the research one study at a time that addresses Helms's racial identity model.

> Brown, Parham, and Yonker (1996) employed the White Racial Identity Scale to measure change in the white racial identity of thirty-five white graduate students

> who participated in a sixteen-week multicultural course. Eighty percent of the participants had previous multicultural training and most of them had had experiences with people from at least two different racial backgrounds, though the nature of these experiences is not defined. The authors designed the course based on three areas—acquisition of self knowledge, cultural knowledge, and cross-cultural skills—and they used a variety of teaching methods such as lectures, talks by guest speakers, and simulations. Results indicated that at the end of the course women endorsed more items than men did in the pseudo-independence stage on the White Racial Identity Scale, and men endorsed more items than women did in the autonomy stage. The authors draw a causal relationship between the course and those changes found in the group.
>
> Neville, Heppner, Louie, and Thompson (1996) also examined the change in White racial identity as well. . . . (p. 8)

In this example, the authors first described the study by Brown et al. (1996) in some detail, then they described the study by Neville et al. (1996). In this way, they discussed one study at a time. They also provided a detailed description of the study to include the research problem (whether the scale measures change), an implied question (whether men and women differ on the scale), the data collection (i.e., 35 participants in the study), and a summary of the results (men and women endorse items differently depending on their stage of development).

Concluding Statement of the Review How do you end a literature review section in a study? The concluding statement of a literature review serves several purposes. It summarizes the major themes found in the literature and it provides a rationale for the need for your study or the importance of the research problem.

First, summarize the major themes. Ask yourself, "What are the major results and findings from all of the studies I have reviewed?" Your answer to this question will result in the identification of three or four themes that summarize the literature. Then, briefly summarize each theme. The summaries should emphasize the major ideas under each major heading in the literature review and highlight what the reader needs to remember from the summary of the review.

Besides stating the major themes in a review, you also need to suggest reasons why the current literature is deficient and why educators need additional research on your topic. These reasons address ways the proposed study will add to knowledge, and they justify the importance of the research problem. Typically, writers mention three or four reasons that play a significant role in research because they often lead into the purpose statement, research questions, and hypotheses (to be addressed in the next chapter).

The example below illustrates both the summary of themes and the author's justification of the need for additional research.

> The factors influencing faculty to be productive researchers found in the literature suggest three themes: early productivity (Did faculty begin publishing early in their careers?); mentoring (Did faculty apprentice under a distinguished researcher?); and support systems (Did faculty have adequate funding for their research?). These factors, although important, do not address the time faculty need to conduct research. When faculty have allotted time for scientific investigations and inquiries, it helps to focus their attention, offers sustained momentum for research, and removes distracting activities that may draw their attention away from research.

In this example, the author states three themes and, from these themes, identifies an area for future research: faculty time. Then, the author identifies three reasons for the importance of the study of faculty time.

REEXAMINING THE PARENT INVOLVEMENT AND THE MOTHERS' TRUST IN PRINCIPALS STUDIES

In both the quantitative parent involvement study (Deslandes & Bertrand, 2005) and the qualitative mothers' trust in principals study (Shelden et al., 2010), the authors begin their articles by citing literature from other studies. As you have learned in this chapter, you can identify this literature by noting when the researchers cite an author and a year. For example, see the reference to "Henderson & Mapp, 2002" (Paragraph 01) in the parent involvement study or the reference to "Colarusso & O'Rourke, 2007" (Paragraph 01) in the mother's trust in principals study. Let's take a closer look at the two studies and examine their use of the literature.

Literature Review Analysis in a Quantitative Study

In the *quantitative* parent involvement study (Deslandes & Bertrand, 2005), the citations to the literature cluster around the beginning and the end of the article. In the opening, Paragraph 01, the authors cite studies to document the importance of the problem: the need for parent involvement in their children's educational processes at home and at school. Then, in Paragraph 02, the authors explain that a model exists in the literature that might explain parent involvement—the Hoover-Dempsey and Sandler model. They also present research questions consistent with factors in this model that are expected to influence parent involvement: parents' role construction, parents' self-efficacy, perceptions of teacher invitations, and perceptions of adolescent invitations. You need to see how the authors identify, earlier in the article, the four primary factors that will be the focus of the study. The paragraphs to follow (03–10) merely summarize the literature on each of these four factors. Paragraph 03 begins with an overview of many possible factors that might influence parent involvement. Then Paragraphs 04–08 review the literature on each of the four factors. In Paragraph 09, the authors reflect on the relative importance of each of the four factors when measured together, and Paragraph 10 introduces the idea that grade level will influence parent outcomes and thereby anticipates this element being introduced into the study. Then, when you see Paragraph 13, which is the intent or purpose of the study, it makes sense because we now know that four factors and grade level will be of primary importance in this study. Finally, the authors return again to the literature in Paragraphs 34–43, in which they first state their major results and then compare their results to findings suggested by authors in the literature as well as the theory mentioned at the beginning of the article.

In summary, the literature in the parent involvement study:

- Documents the importance of the research problem at the beginning of the study
- Provides evidence for important components of the model to be tested
- Provides evidence for the research questions
- Provides an explanation for the results at the end of the study by citing other studies and by returning to the theoretical predictions

Literature Review Analysis in a Qualitative Study

Now let's turn to a qualitative study to see the role of the literature. In the *qualitative* mothers' trust in principals study (Shelden et al., 2010), the literature serves some of the same purposes and some different purposes than did the literature in the quantitative study. The overall use of the literature in this qualitative article is to establish the importance of trust

in the parent–school relationship. Paragraphs 01–11 might be seen as a discussion of the importance of the problem of trust, and the literature unfolds from the broad concept of parents being involved in the schools (Paragraph 01), to the importance of trust and how it is defined (Paragraphs 02–03), how trust is critical in schools, especially for leaders (Paragraphs 04–06), to the important relevance for parents of children with disabilities and their due process needs (Paragraph 07–11). This broad-to-narrow perspective that the authors convey in the introduction establishes the importance of trust for parents of children with disabilities. As far as using literature in the introduction, we see in this qualitative study more reliance on the literature than is typically found in qualitative projects. However, it is important to see this literature as establishing the importance of the problem of trust and its consequences, rather than specifying the questions that need to be asked (as is found in a quantitative study). In this sense, this introduction is a good qualitative presentation of the opening literature for a study. In addition, the authors return to the literature on trust at the end of the study and compare the findings from their study with this literature to assess whether their findings were consistent (Paragraphs 59–68).

In summary, the literature in the qualitative mothers' trust in principals study:

- Documents the importance of the research problem at the beginning of the study
- Does not foreshadow the research questions (which are broad in scope to encourage participants to provide their views)
- Is used to compare with the findings of the present study at the end of the study

KEY IDEAS IN THE CHAPTER

What Is a Review of the Literature and Why Is It Important?

A literature review is a written summary of articles, books, and other documents that describes the past and current state of knowledge about a topic, organizes the literature into topics, and documents a need for a proposed study. This review serves the purpose of providing a need for a study and demonstrating that other studies have not addressed the same topic in exactly the same way. It also indicates to audiences that the researcher is knowledgeable about studies related to a topic.

Literature reviews are different in quantitative and qualitative research. In quantitative research, investigators provide a detailed review of the literature to justify the major purpose and research questions of a study. In qualitative research, the inquirers use a limited amount of literature in the beginning of the study to allow participant views, rather than perspectives from the literature, to play a major role in the study. The literature also helps to establish the importance of the research problem or issue. Then, the literature is cited again at the end of studies in both quantitative and qualitative research, but its use is again different. In quantitative research, the literature at the end compares results with predictions made at the beginning of the research. In qualitative research, researchers use the literature at the end to compare and contrast findings in the study with past literature.

The Five Steps in Conducting a Literature Review

Designing and conducting a literature review involves five interrelated steps. First, researchers identify key terms to use in their search of the literature. They look for these terms in titles, research questions, or in computer databases. Next, researchers locate literature in library resources such as summaries, books, journal publications and electronic sources, and early stage literature.

After locating the literature, the researcher then critically evaluates the materials and makes a determination of its relevance for use. Criteria for evaluating materials consist of

assessing the quality of the publications and the rigor of the research as well as examining the relevance of the topic for a study.

Researchers next obtain the literature, take notes or create abstracts of it, and organize it into a visual rendering of the literature, called a literature map. This map helps to organize past literature as well as portray how a proposed study fits into the overall literature.

The final step is actually writing the literature review. Writing strategies at this point include using appropriate style manual formats and developing headings for the written literature review. Researchers need to consider the extent or length of the review for different types of research reports. The type of review will also vary, depending on the type of report. Some literature reviews are thematic reviews summarizing the major themes to appear in the literature. Other literature reviews provide a more detailed analysis of studies, a study-by-study approach in which each study is examined for its purpose and question, forms of data collected, and key results.

Researchers conclude a literature review by summarizing major themes and presenting reasons for a proposed study or the importance of studying a research problem. These reasons lead to a rationale for a study that builds naturally into the purpose statement and research questions or hypotheses.

Useful Information for Producers of Research

- Use the five-step process explained in this chapter for designing and conducting a literature review.
- Consider the different strategies for selecting key terms: choosing words from the project's title, selecting words from a brief question asked in the study, and using online databases.
- Begin a search of the literature with the most easily accessible material, such as published research studies reported in journals. Use the academic library databases or the Internet to search for literature.
- Begin with the ERIC database before using other databases to locate useful educational literature.
- Develop some means for organizing the literature you find, such as a graphic rendering of the literature into groups of studies in a literature map.
- Realize that not every source you locate may provide relevant information for your literature review. To determine which to use, remember these four criteria: the relevance of the topic, the individuals or sites, the problem, and the accessibility of the information.
- Abstract studies before you begin to write the literature review. These abstracts provide a useful summary of studies and can be included in your review. Be sure to include all of the elements that go into a good abstract.
- Use an accepted style manual such as the APA *Publication Manual,* 6th edition, for the end-of-text and within-text references as well as for the headings in your literature review. Avoid the temptation to jot down a citation any old way. Writing citations in APA-accepted form will save you many hours of extra work later. For most educational research reports, a two- or three-level heading format will suffice.
- Keep your literature review succinct and short. Decide whether a thematic or a study-by-study review is appropriate for your research report. Consider the type of review typically used by audiences for your report.
- Conclude your literature review with a summary of the major themes. Also, discuss how the literature is deficient and how your study adds to the literature.

Useful Information for Consumers of Research

- Recognize that a literature review in a research report will contain many types of literature. Literature syntheses provide a broad summary of research. Books are less valuable as research guides, but they may report useful research. The most popular sources for literature reviews are journal articles. Other research literature is available in publications from conferences. Of less value is research posted to Web sites because reviewers may not have evaluated it for quality.
- Do not assume that all literature cited by an author in a report contains good and valid information. Researchers need to choose the literature to include in a review selectively. Apply the evaluation criteria for relevance found in this chapter to determine whether an author used relevant literature.
- As you evaluate a study, consider whether the author has made a good case that the study adds to existing knowledge. The study should explicitly specify how and in what way it adds to knowledge. A visual literature map of sources of information helps to convey the author's case.
- A research study should employ a consistent form for reporting references to the literature, both in the text as well as at the end of the report. In addition, the headings should be easy to identify and be descriptive of the passage that follows.

Understanding Concepts and Evaluating Research Studies

1. Assume that you wish to conduct a literature review on the topic of the increasing incidence of teenage pregnancies in high schools today. What two or three words would you use to search for research on this topic using the ERIC database?
2. Run a search on your topic using one of the online databases (e.g., ERIC, PsycINFO, EBSCO). What criteria would you use to examine the quality of the articles that you find in your search?
3. Using a reference that emerged from your online database search in #2, write a correct APA (6th edition) end-of-text reference for the literature citation.

Conducting Your Research

Practice conducting a literature review using the educational topic of your choice. Go through the five steps in conducting a literature review, ending with a brief literature review of one or two articles: (a) *Identify key terms* to use in your search for literature; (b) *Locate literature* about a topic by consulting several types of materials and databases, including those available at an academic library and on the Internet; (c) *Critically evaluate and select* the literature for your review; (d) *Organize the literature* you have selected by abstracting or taking notes on the literature and developing a visual diagram of it; and (e) *Write a review* that reports summaries of the literature.

Go to the Topic "Reviewing the Literature" in the MyEducationLab (**www.myeducationlab.com**) for your course, where you can:

- Find learning outcomes for "Reviewing the Literature."
- Complete Assignments and Activities that can help you more deeply understand the chapter content.
- Apply and practice your understanding of the core skills identified in the chapter with the Building Research Skills exercises.
- Check your comprehension of the content covered in the chapter by going to the Study Plan. Here you will be able to take a pretest, receive feedback on your answers, and then access Review, Practice, and Enrichment activities to enhance your understanding. You can then complete a final posttest.